

CORRECTED VERSION

(19) World Intellectual Property  
Organization  
International Bureau



(43) International Publication Date  
22 July 2004 (22.07.2004)

PCT

(10) International Publication Number  
**WO 2004/060854 A1**

(51) International Patent Classification<sup>7</sup>: **C07C 213/06**,  
219/06, 219/08, C11D 1/62

Dobbs Ferry, NY 10522 (US). **URQUART, Sandra**  
[US/US]; 192 East 26th Street, Paterson, NJ 07514 (US).

(21) International Application Number:  
PCT/EP2003/014890

(74) Agent: **SCHALKWIJK, Pieter, Cornelis**; Akzo Nobel  
N.V., Intellectual Property Department (Dept. AIP), P.O.  
Box 9300, NL-6800 SB Arnhem (NL).

(22) International Filing Date:  
23 December 2003 (23.12.2003)

(81) Designated States (*national*): AE, AG, AL, AM, AT, AU,  
AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR,  
CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD,  
GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR,  
KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN,  
MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU,  
SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA,  
UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:  
60/437,474 2 January 2003 (02.01.2003) US

(71) Applicant (*for all designated States except US*): **AKZO  
NOBEL N.V.** [NL/NL]; Velperweg 76, NL-6824 BM Arn-  
hem (NL).

(72) Inventors; and

(75) Inventors/Applicants (*for US only*): **BAND, Elliot**  
[US/US]; 3 Lake Drive, Pleasantville, NY 10570 (US).  
**DERY, Maurice** [US/US]; 24 North Meadow Lane, Put-  
nam Valley, NY 10579 (US). **JOYCE, William** [US/US];  
111 Wilmont Ct., Hopewell Junction, NY 12533 (US).  
**TELSCHOW, Jeffrey, E.** [US/US]; 47 Sunset Lane,  
Croton-On-Hudson, NY 10520 (US). **SU, Bilng, Ming**  
[US/US]; 4 Batten Road, Croton-On-Hudson, NY 10520  
(US). **ENGEL, Michael** [US/US]; 77 Park Drive, Mt.  
Kisco, NY 10549 (US). **NOWAK, John** [US/US]; 75 Win-  
nebago Road, Yonkers, NY 10710 (US). **PETERSON,  
Claude** [US/US]; 181 Ridgewood Avenue, Middletown,  
NY 10940 (US). **PROVIDENCE, Harold** [US/US];  
111 Wilmont Ct., Hopewell Junction, NY 12533 (US).  
**TRINH, Phuong-Nga** [US/US]; 288 Ashford Avenue,

(84) Designated States (*regional*): ARIPO patent (BW, GH,  
GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW),  
Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),  
European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE,  
ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE,  
SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA,  
GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

— with international search report

(48) Date of publication of this corrected version:  
30 September 2004

(15) Information about Correction:  
see PCT Gazette No. 40/2004 of 30 September 2004, Sec-  
tion II

*For two-letter codes and other abbreviations, refer to the "Guid-  
ance Notes on Codes and Abbreviations" appearing at the begin-  
ning of each regular issue of the PCT Gazette.*

(54) Title: MINIMIZATION OF VOLATILE ORGANIC SULPHUR BYPRODUCTS IN DIMETHYL SULFATE QUATERNIZA-  
TION OF AMINES MADE WITH HYPOPHOROUS ACID

(57) Abstract: The present invention relates to a process for the minimization of volatile organic sulphur byproducts in dimethyl  
sulfate quaternization of amines made with hypophosphorous acid, which leads to the formation of an odor stable product.

WO 2004/060854 A1